



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Mathew et al.

Serial No.: 09/494,837

Group Art Unit: 1733

Filed: 01/31/00

Examiner: J. Aftergut

For: METHOD OF MAKING FLUOROCARBON COATED  
BRAIDED HOSE ASSEMBLIES

Attorney Docket No: 0153.00084

**AFFIDAVIT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, Norman S. Martucci, being duly sworn, do hereby say that:

1. I am co-inventor of the above-captioned invention.
2. I am skilled in the art of hose construction and have worked extensively in the development of a hose assembly, including coated braided hose assemblies and methods of manufacturing the same.
3. Teleflex, Inc., the Assignee of the presently pending application, manufactures a hose assembly, as disclosed in the above-captioned patent application that is formed by first "dipping" a hose assembly in dispersion, then affixing a braid to the exterior surface of the hose assembly. The braided hose is then "dipped" in the dispersion again to ensure that the braid is affixed to the surface of the hose assembly. The first dispersion allows the braided layer to be bonded to the inner liner and a second dispersion or dip helps maintain the bond strength of the braided layer to the inner tube inner liner. The process described is known as the "double dip" process and the process creates a hose assembly that is extremely bendable and overcomes problems of uniformity of bonding and increased flexibility that are found in the hose assemblies formed using methods described by the prior art. The hose formed using the "double dip" process is

more flexible and bendable because the interstitial spaces, spaces between the fibers of the braid, into which the second dispersion flows form anchor points between the braid and the hose assembly.

4. European patent 439898 discloses a method of forming a hose assembly by braiding previously coated fibers on the exterior surface of a hose assembly. The method merely bonds the fibers and then includes one dipping step for dipping the entire hose with the braid included thereon into a dispersion. The method does not result in increased flexibility of the tube and actually forms a more rigid hose assembly. The hose is more rigid because the entire length of fiber forms an anchor point between the braid and the hose assembly.

Further, the Office Action states that the presently pending claims recite that any gaps from the braided fibers were filled with the dispersion of the second coating. The Office Action concluded that coating the fibers prior to braiding the fibers would have resulted in a finished assembly that had the gaps between the braided fibers filled as shown in Figure 2 of EP '898 and disclosed at column 4, lines 39-41. However, it is respectfully submitted that at column 4, lines 30-32 of EP '898 there is stated, "the fluorocarbon polymer solution or dispersion coats each individual glass fiber 18 of the braided layer 18." Further, at lines 35-45, there is disclosed that,

"the outer periphery of each individual fiber is completely coated prior to application to the liner. The solvent is removed from the solution by drawing after the fibers are applied about the inner liner 16. This leaves a fluorocarbon polymer material or coating 20 dispersed throughout the braided layer 18. By coating each fiber of the braided layer 18 prior to braiding or weaving the material about the liner 16, a strong bond between the fibers 18 and the liner 16 is achieved."

It is respectfully submitted that there is no teaching or suggestion in the EP '898 patent that indicates the gaps between the fibers of the braided layer would be filled just because each individual fiber is coated prior to braiding. Additionally, while Figure 2 does depict a braided hose similar to that of the presently pending independent claims, there is no disclosure in the prior art that indicates that the end result of the hose would be a

smooth outer surface. This is counter-intuitive with the process that is disclosed throughout EP '898. Instead, as recited in the attached declaration by Norman Martucci, the resultant braided hose has a bumpy surface wherein gaps between the fibers of the braid are found. Specific support for this observation is found at column 4 of the cited prior art at lines 10-20 wherein it discloses that, "the assembly is constructed in accordance with the method of the instant invention, the coating 20 covers the fibers of the braided layer 18 from the outer periphery of the layer 18 radially inward. The coating, therefore, preferably does not extend radially outward from the outer periphery of the braided material 18." In other words, the braided fibers themselves are completely encapsulated by a dispersion, but the dispersion does not extend beyond the periphery or outer surface of the braided material. Instead, the braid itself is embedded with the dispersion, such that the braided fibers can then be applied to the surface of a liner and the dispersion within the fibers of the braid enables the braid to be adhered to the surface of the liner.

The undersigned declares further all statements made herein of his knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful and false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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Norman S. Martucci

Dated: May \_\_\_\_, 2004

STATE OF MICHIGAN    )  
                                  ) ss.  
COUNTY OF MACOMB )

On this \_\_\_\_ day of \_\_\_\_\_, 2004, personally appeared before me, NORMAN S. MARTUCCI to me known to be the person named in and who executed the above instrument, and acknowledged that he executed the same for the uses and purposes therein mentioned.

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Notary Public  
My Commission Expires: